

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NM-326-AD; Amendment 39-13048; AD 2003-03-23]

RIN 2120-AA64

Airworthiness Directives; Empresa Brasileira de Aeronautica S.A. (EMBRAER) Model EMB-135 and -145 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule; request for comments.

SUMMARY: This amendment adopts a new airworthiness directive (AD) that is applicable to certain EMBRAER Model EMB-135 and -145 series airplanes. This action requires replacement of the horizontal stabilizer control units (HSCUs) with new upgraded HSCUs, and corrective actions if necessary. This action is necessary to prevent reversal of the pilot's pitch trim command for the horizontal stabilizer, which could result in reduced controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective February 24, 2003.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of February 24, 2003.

Comments for inclusion in the Rules Docket must be received on or before March 10, 2003.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-114, Attention: Rules Docket No. 2002-NM-326-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9 a.m. and 3 p.m., Monday through Friday, except Federal holidays. Comments may be submitted via fax to (425) 227-1232. Comments may also be sent via the Internet using the following address: 9-anm-iarcomment@faa.gov. Comments sent via the Internet must contain "Docket No. 2002-NM-326-AD" in the subject line and need not be submitted in triplicate. Comments sent via fax or the Internet as attached electronic files must be formatted in Microsoft Word 97 for Windows or ASCII text.

The service information referenced in this AD may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343-CEP 12.225, Sao Jose dos Campos-SP, Brazil. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW.,

Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Robert D. Breneman, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1263; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION: The Departamento de Aviacao Civil (DAC), which is the airworthiness authority for Brazil, recently notified the FAA that an unsafe condition may exist on certain EMBRAER Model EMB-135 and -145 series airplanes. The DAC advises that, during EMBRAER production flight tests on a Model EMB-145 airplane, there were two occurrences of pitch trim system malfunction. Such malfunction resulted in reversed actuation of the horizontal stabilizer surface in response to nose down pitch trim command through the yoke switches. Investigation has revealed that the pitch trim system malfunction is due to failure of an internal component of the horizontal stabilizer control unit (HSCU). Reversal of the pilot's pitch trim command for the horizontal stabilizer could result in reduced controllability of the airplane.

Issuance of Brazilian Airworthiness Directives

The DAC issued emergency Brazilian airworthiness directive 2001-12-04, dated December 21, 2001, to address the identified unsafe condition on airplanes of Brazilian registry. As interim action to alleviate the identified unsafe condition, EMBRAER and Parker Hannifin (the manufacturer of the subject HSCUs) had developed a "burn-in" test designed to identify discrepant HSCUs. The "burn-in" test had already been accomplished on six airplanes of U.S. registry, and no discrepant HSCUs were found. Therefore, the FAA did not issue a corresponding AD.

Subsequently, the DAC issued two Brazilian airworthiness directives: 2001-12-04R1, dated March 11, 2002, and 2001-12-04R2, dated May 27, 2002, which require replacement of certain HSCUs with new upgraded HSCUs.

Explanation of Relevant Service Information

EMBRAER has issued the following service bulletins:

- Service Bulletin 145-27-0091, Change 01, dated June 17, 2002; and Change 02, dated November 27, 2002. These service bulletin changes describe procedures for replacing the horizontal stabilizer actuator (HSA) with a new HSA having a modified clutch with a higher breakout torque set point. Change 02 revises the service bulletin effectivity.
- Service Bulletin 145-27-0092, Change 01, dated May 2, 2002; and Change 02, dated August 26, 2002. Among other things, these service bulletin changes describe procedures for replacing certain HSCUs with new upgraded HSCUs; and corrective actions, if necessary. For airplanes on which certain replacement HSCUs are used, corrective actions include replacement of the HSA with a new HSA that has a modified clutch with a higher breakout torque set point, and replacement of two pitch trim circuit breakers with new circuit breakers that are sized for the new system load capacity. Change 02 revises the service bulletin effectivity.

Accomplishment of the actions specified in these service bulletins is intended to adequately address the identified unsafe condition. The DAC classified these service bulletins as mandatory and issued Brazilian airworthiness directive 2001-12-04R2, described previously, in order to assure the continued airworthiness of these airplanes in Brazil.

FAA's Conclusions

These airplane models are manufactured in Brazil and are type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the DAC has kept the FAA informed of the situation described above. The FAA has examined the findings of the DAC, reviewed all available information, and determined that AD action is necessary for products of this type design that are certificated for operation in the United States.

Explanation of Requirements of Rule

Since an unsafe condition has been identified that is likely to exist or develop on other airplanes of the same type design registered in the United States, this AD is being issued to prevent reversal of the pilot's pitch trim command for the horizontal stabilizer, which could result in reduced controllability of the airplane. This AD requires replacement of certain HSCUs with new upgraded HSCUs, and corrective actions if necessary. The actions are required to be accomplished in accordance with the service bulletins described previously, except as described below.

Clarifications/Differences Between This AD and the Brazilian Airworthiness Directives

Brazilian airworthiness directive 2001-12-04R1, dated March 11, 2002, specified that corrective actions must be accomplished "before June 15, 2002," which is equivalent to a compliance time of approximately 90 days. However, when Brazilian airworthiness directive 2001-12-04R2 was issued on May 27, 2002, the same compliance date of June 15, 2002, was retained; this resulted in a compliance time of approximately 20 days. In developing an appropriate compliance time for this AD, the FAA considered the compliance times specified in the Brazilian airworthiness directives. We find that 90 days is appropriate for accomplishment of the replacement required by this AD, and that it accurately reflects the intent of the Brazilian airworthiness directives.

In addition, Brazilian airworthiness directive 2001-12-04R2 specifies that replacement action may be accomplished per EMBRAER Service Bulletin 145-27-0092, Change 01, "or further revisions" that are approved by the DAC. The FAA cannot approve the use of a document that does not yet exist because to do so would violate Office of the Federal Register regulations regarding approval of materials that are incorporated by reference. However, use of a later revision of the service bulletin could be approved as an alternative method of compliance per paragraph (d) of this AD. As described earlier, the FAA has approved the use of Change 02 of EMBRAER Service Bulletin 145-27-0092 for accomplishment of the actions required by this AD.

Differences Between This AD, the Brazilian Airworthiness Directive, and EMBRAER Service Bulletin 145-27-0092

The applicability of Brazilian airworthiness directive 2001-12-04R2 specifies that the replacement must be accomplished on all EMBRAER Model EMB-135 and -145 series airplanes equipped with certain HSCUs having serial numbers (S/Ns) higher than 4000, including those S/Ns identified with an "A" suffix that were installed per Brazilian emergency airworthiness directive 2001-12-04. However, the effectivity of Changes 01 and 02 of EMBRAER Service Bulletin 145-27-0092 calls out certain airplanes by serial number, and does not specify HSCUs having an S/N with an "A" suffix. The applicability of this AD follows that of the Brazilian airworthiness directive with regard to including HSCUs with the "A" suffix designation; however, the applicability of this AD also specifies the airplane serial numbers called out in the service bulletin.

Additionally, Changes 01 and 02 of EMBRAER Service Bulletin 145-27-0092 specify the use of HSCU part numbers 362100-1007 MOD.0 and 362100-1007 interchangeably. Those revisions of the service bulletin also specify the use of HSCU part numbers 362100-5009 MOD.0 and 362100-5009 interchangeably. However, paragraphs (a)(1) and (a)(3) of this AD correspond to the Brazilian airworthiness directive by using the term "MOD.0."

Difference Between This AD and EMBRAER Service Bulletin 145-27-0092

Changes 01 and 02 of EMBRAER Service Bulletin 145-27-0092 specify replacement of certain HSCUs with the kits listed in the service bulletin, or with "alternative or similar parts approved by EMBRAER." However, this AD requires replacement with a new upgraded HSCU, and does not allow the use of alternative or similar parts approved by EMBRAER.

Determination of Rule's Effective Date

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Submit comments using the following format:

- Organize comments issue-by-issue. For example, discuss a request to change the compliance time and a request to change the service bulletin reference as two separate issues.
- For each issue, state what specific change to the AD is being requested.
- Include justification (e.g., reasons or data) for each request.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this rule must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2002-NM-326-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and that it is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2003-03-23 Empresa Brasileira De Aeronautica S.A. (EMBRAER): Amendment 39-13048.
Docket 2002-NM-326-AD.

Applicability: Model EMB-135 and -145 series airplanes, having serial numbers as listed in EMBRAER Service Bulletin 145-27-0092, Change 02, dated August 26, 2002; and other Model EMB-135 and -145 series airplanes that have been equipped with a horizontal stabilizer control unit (HSCU) having part number (P/N) 362100-1007 MOD.1, P/N 362100-1009 MOD.0, or P/N 362100-5009 MOD.0; and having a serial number (S/N) above 4000, including S/Ns identified with an "A" suffix that were installed per emergency Brazilian airworthiness directive 2001-12-04, dated December 21, 2001; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent reversal of the pilot's pitch trim command for the horizontal stabilizer, which could result in reduced controllability of the airplane, accomplish the following:

Part I: HSCU Replacement

(a) Within 90 days after the effective date of this AD, replace the HSCU with a new upgraded HSCU having the P/N identified in paragraphs (a)(1), (a)(2), and (a)(3) of this AD, as applicable; per Figure 1 and Part I of the Accomplishment Instructions of EMBRAER Service Bulletin 145-27-0092, Change 01, dated May 2, 2002; or Change 02, dated August 26, 2002.

(1) Replace HSCU P/N 362100-1007 MOD.1 with a new upgraded HSCU having P/N 362100-1007 MOD.0 or MOD.2, P/N 362100-1009 MOD.1, or P/N 362100-5009 MOD.1.

(2) Replace HSCU P/N 362100-1009 MOD.0 with a new upgraded HSCU having P/N 362100-1009 MOD.1, or P/N 362100-5009 MOD.1.

(3) Replace HSCU P/N 362100-5009 MOD.0 with a new upgraded HSCU having P/N 362100-5009 MOD.1.

Part II: Corrective Actions

(b) For airplanes on which a new upgraded HSCU having P/N 362100-1009 MOD.1 or 362100-5009 MOD.1 has been installed per paragraph (a)(1) of this AD: Concurrently with the requirements of paragraph (a) of this AD, do paragraphs (b)(1) and (b)(2) of this AD.

(1) Replace the horizontal stabilizer actuator (HSA) with a new HSA per the Accomplishment Instructions of EMBRAER Service Bulletin 145-27-0091, Change 01, dated June 17, 2002; or Change 02, dated November 27, 2002.

(2) Replace the pitch trim circuit breakers with new circuit breakers per the Accomplishment Instructions of EMBRAER Service Bulletin 145-27-0092, Change 01, dated May 2, 2002; or Change 02, dated August 26, 2002.

Alternative Methods of Compliance

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, International Branch, ANM-116.

Note 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the International Branch, ANM-116.

Special Flight Permits

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(e) The actions shall be done in accordance with EMBRAER Service Bulletin 145-27-0091, Change 01, dated June 17, 2002; EMBRAER Service Bulletin 145-27-0091, Change 02, dated November 27, 2002; EMBRAER Service Bulletin 145-27-0092, Change 01, dated May 2, 2002; and EMBRAER Service Bulletin 145-27-0092, Change 02, dated August 26, 2002; as applicable; which contain the specified list of effective pages:

Service bulletin reference and date	Page No.	Change level shown on page	Date shown on page
EMBRAER Service Bulletin 145-27-0091, June 17, 2002.	1-2 3-11	01 Original	June 17, 2002. Feb. 8, 2002.
EMBRAER Service Bulletin 145-27-0091, November 27, 2002.	1-2 3-11	02 Original	Nov. 27, 2002. Feb. 8, 2002.
EMBRAER Service Bulletin 145-27-0092, May 2, 2002.	1-2, 7-10, 35-36, 41-42 3-6, 11-34, 37-40	01 Original	May 2, 2002. Feb. 6, 2002.
EMBRAER Service Bulletin 145-27-0092, August 26, 2002.	1-2 7-10, 35-36, 41-42 3-6, 11-34, 37-40	02 01 Original	Aug. 26, 2002. May 2, 2002. Feb. 6, 2002.

This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Empresa Brasileira de Aeronautica S.A. (EMBRAER), P.O. Box 343–CEP 12.225, Sao Jose dos Campos–SP, Brazil. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Note 3: The subject of this AD is addressed in Brazilian airworthiness directive 2001-12-04R2, dated May 27, 2002.

Effective Date

(f) This amendment becomes effective on February 24, 2003.

Issued in Renton, Washington, on January 30, 2003.

Ali Bahrami,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03-2783 Filed 2-6-03; 8:45 am]

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